A RAPID APPROACH TO CHARACTERIZE NATURAL ORGANIC MATTER IN WATER

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Natural organic matter (NOM) in the environment today does not only come from humic sources, but also from non-humic or synthetic sources. The typical total organic carbon (TOC) analysis has been typically used as an aggregate measure of NOM in water. NOM from New Jersey (U.S.A) surface water sources were isolated and fractionated by resin adsorption techniques into hydrophobic acid, hydrophobic neutral, hydrophobic base, hydrophilic acid, hydrophilic neutral and hydrophilic base. The Spectral Fluorescent Signatures (SFS) technique through a database of spectral characteristics specific to each fraction was developed for the identification of the six NOM fractions. Among the main advantages of the technique are high sensitivity and rapid identification. The potential use of the technique for the rapid qualitative and quantitative identification of the NOM fractions, including the problematic ones, for point/non-point source water assessment and impact on water quality is presented.